IN THE CLAIMS:

Please amend the claims as follows:

Claims 1 –15 (Canceled)

16. (Previously Withdrawn) Method for minimizing mechanical stresses to tapes of superconducting material circumferentially wound side by side on a support at a prefixed distance so as gaps are circumferentially formed among adjacent tapes, comprising the phase of interposing a non-superconducting material in a shape of a selected from wires and tapes between adjacent tapes to partially fill said gaps.

17. (Previously Withdrawn) Method for producing a superconducting conductor comprising at least one layer of superconducting tapes circumferentially wound side by side on a support at a prefixed distance so as gaps are circumferentially formed among adjacent tapes, wherein a non-superconducting material in a shape of selected from wires and tapes is interposed between adjacent tapes to partially fill said gaps.

18. (Canceled)

19. (Currently Amended) A superconducting cable comprising at least one layer of tapes of superconducting material circumferentially wound side by side on a support at a prefixed distance so that gaps are circumferentially formed between

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adjacent tapes, wherein a non-superconducting material is interposed between the adjacent tapes to partially fill the gaps and configured to allow a space in the gaps, the non-superconducting material having a thickness differing from that of the tapes of the superconducting material of an amount not higher than one of +/-15.

20. (Previously Presented) The superconducting cable according to claim 19 wherein the non-superconducting material comprises at least one of tapes and wires.

21. (Canceled)

22. (Previously Presented) The superconducting cable according to claim 19 wherein the non-superconducting material has a thickness substantially equal to that of the tapes of the superconducting material.

23. (Previously Presented) The superconducting cable according to claim 19 wherein the width of the non-superconducting material is such that a gap of one of 0.1-3 mm and 0.1-2 mm remains between one tape of superconducting material and the adjacent non-superconducting material.

24. (Previously Presented) The superconducting cable according to claim 19 wherein the non-superconducting material comprises at least one of plastic and metal.

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25. (Previously Presented) The superconducting cable according to claim 24 wherein the non-superconducting material has amagnetic characteristics at an operative temperature.

26. (Previously Presented) The superconducting cable according to claim 24 wherein the metal comprises at least one of copper, silver, gold, copper alloy, silver alloy, and gold alloy.

27. (Previously Presented) The superconducting cable according to claim 19 wherein the non-superconducting material is longitudinally wound on the support or on an underlying superconducting layer, and alternated with the tapes of superconducting material.

28. (Previously Presented) The superconducting cable according to claim 19 wherein the superconducting cable is disposed within at least one of a current transmission network and a current distribution network.

29. (Currently Amended) A superconducting cable comprising:

a phase conductor including at least a first layer of tapes of superconducting material circumferentially wound side by side on a support at a first prefixed distance so that first gaps are circumferentially formed between adjacent tapes of the phase conductor wherein a non-superconducting material is interposed between the adjacent tapes to partially fill the first gaps and configured to allow a space in the first gaps, the

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non-superconducting material having a thickness differing from that of the first layer of tapes of the superconducting material of an amount not higher than one of +/-15; and

a return conductor including at least a second layer of tapes of superconducting material circumferentially wound on a support side by side at a second prefixed distance so that second gaps are circumferentially formed between adjacent tapes of the return conductor.

30. (Previously Presented) The superconducting cable according to claim 29 wherein a non-superconducting material is present among at least one of the tapes of superconducting material and the tapes of the return conductor.

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